Wisconsin's Vision for Mathematics

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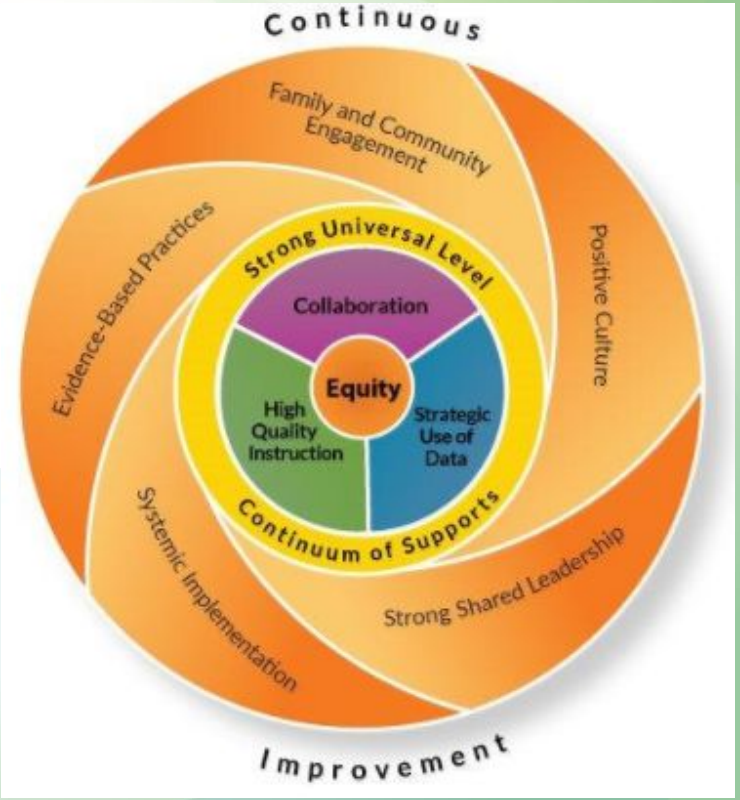
WISCONSIN DEPARTMENT OF PUBLIC INSTRUCTION
Tony Evers, PhD, State Superintendent

Overarching Idea

In order to impact every student, equity-based practices must be at the heart of teaching.



Agenda

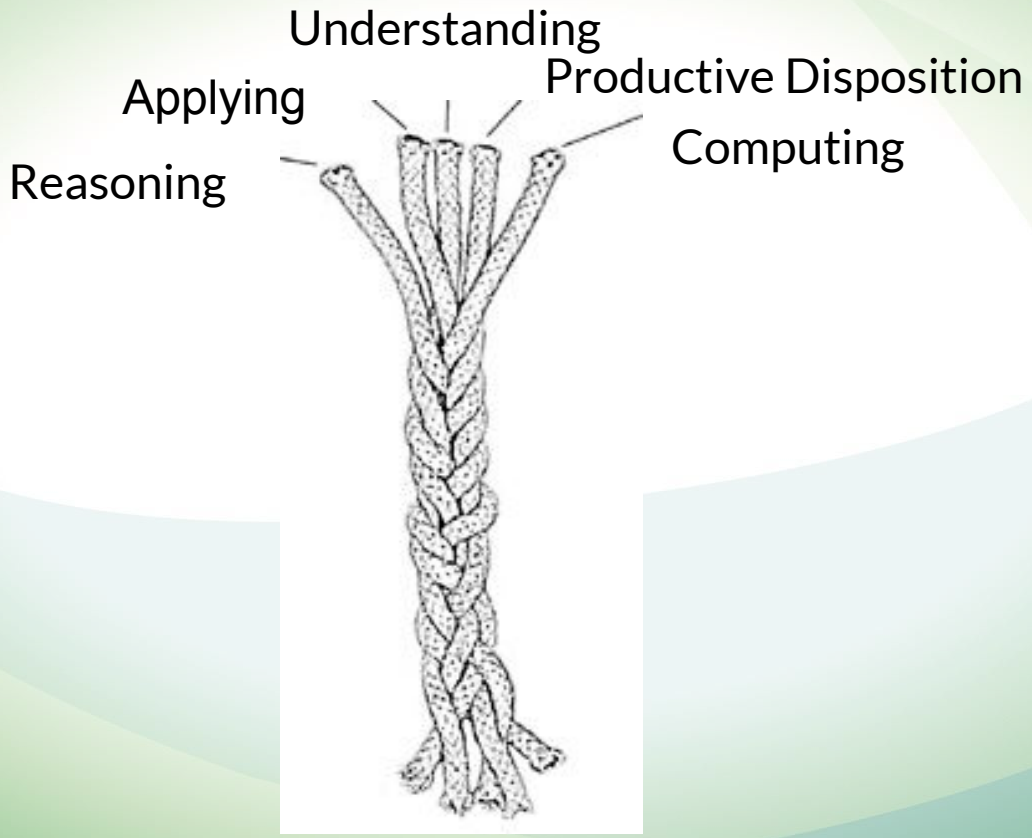
As a result of engaging in this session, you will...

- **Deepen your understanding of Wisconsin's Vision for Mathematics.**
- **Understand the components, structure, and organization of Wisconsin's Standards for Mathematics**

Wisconsin's Vision for Mathematics

The Wisconsin Standards for Mathematics demonstrate a commitment to high expectations for what each and every student should learn

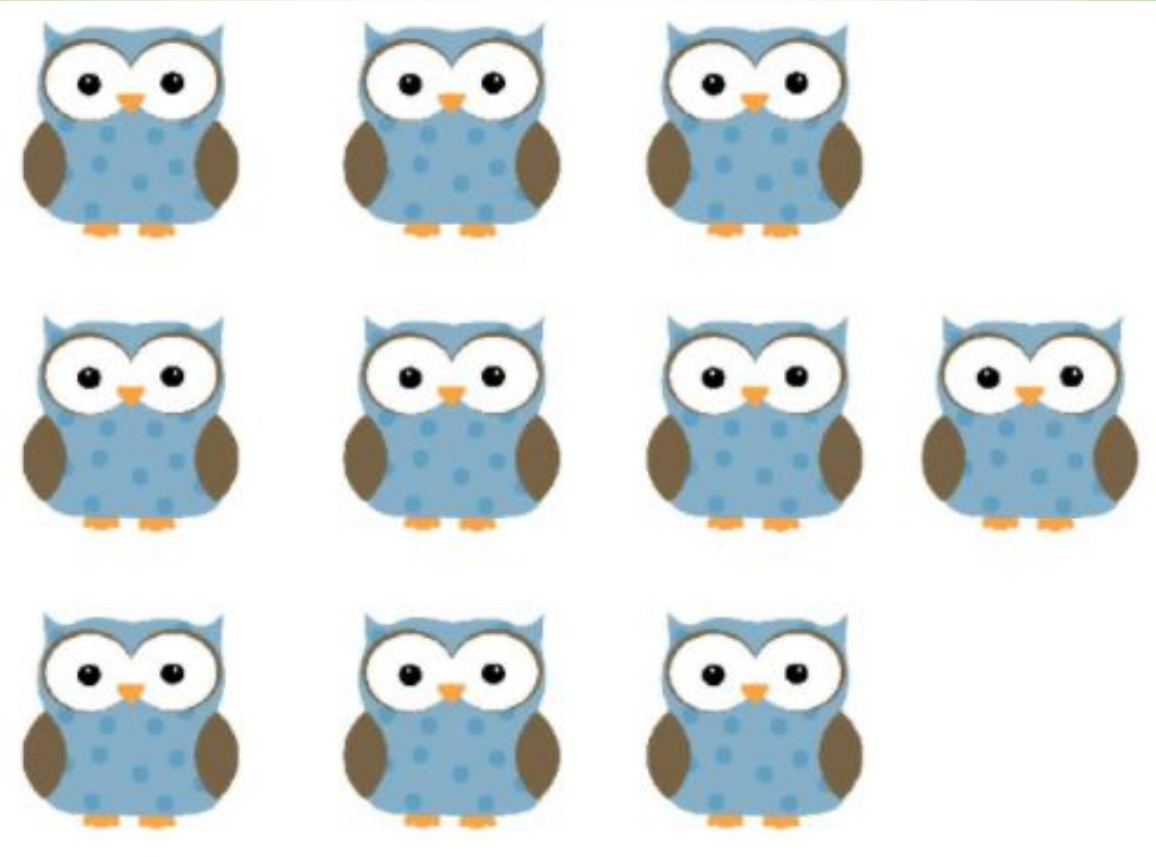
Strands of Mathematical Proficiency



Number Talks

- There are many ways to see and to do any problem.
- Everyone is responsible for communicating her/her own thinking clearly so that others can understand.
- Everyone is responsible for trying to understand other people's thinking.

How Many?



Number Talk

27 + 48

1004 - 998

In what ways did “Number Talks” illustrate Wisconsin’s Vision for Mathematics?

Wisconsin Standards for Mathematics

Three Shifts: The Foundation of College and Career Ready Students

Focus:

Fewer topics, deeply attend to the major work of each grade.

Coherence:

Interconnected concepts within a grade, progressions across grades that extend previous learning.

Rigor:

Deep, authentic understanding of concepts and procedures (not just harder); can use and apply math knowledge in real-world situations.

Focus

Fewer topics, deeply attend to the major work of each grade.

HIGHLIGHTS OF MAJOR WORK IN GRADES K–8	
K–2	Addition and subtraction – concepts, skills, and problem solving; place value
3–5	Multiplication and division of whole numbers and fractions – concepts, skills, and problem solving
6	Ratios and proportional relationships; early expressions and equations
7	Ratios and proportional relationships; arithmetic of rational numbers
8	Linear algebra and linear functions

Standards for Mathematical Practice and the Content Domains

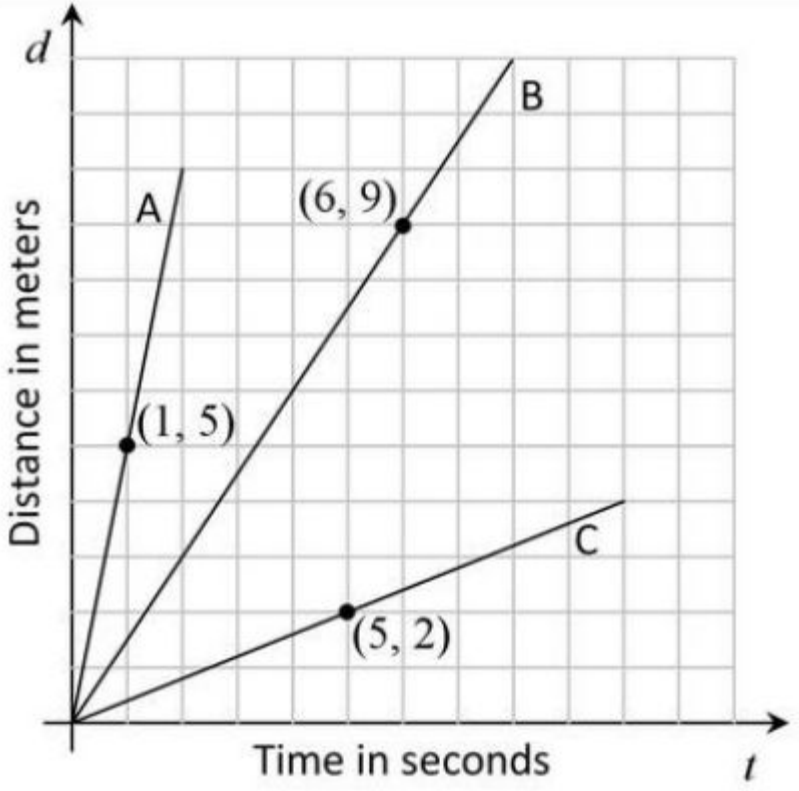
In order to develop mathematically proficient students, the Standards for Mathematical Practice must be addressed at all levels and intertwined with the Standards for Mathematical Content.

Wisconsin Standards for Mathematics

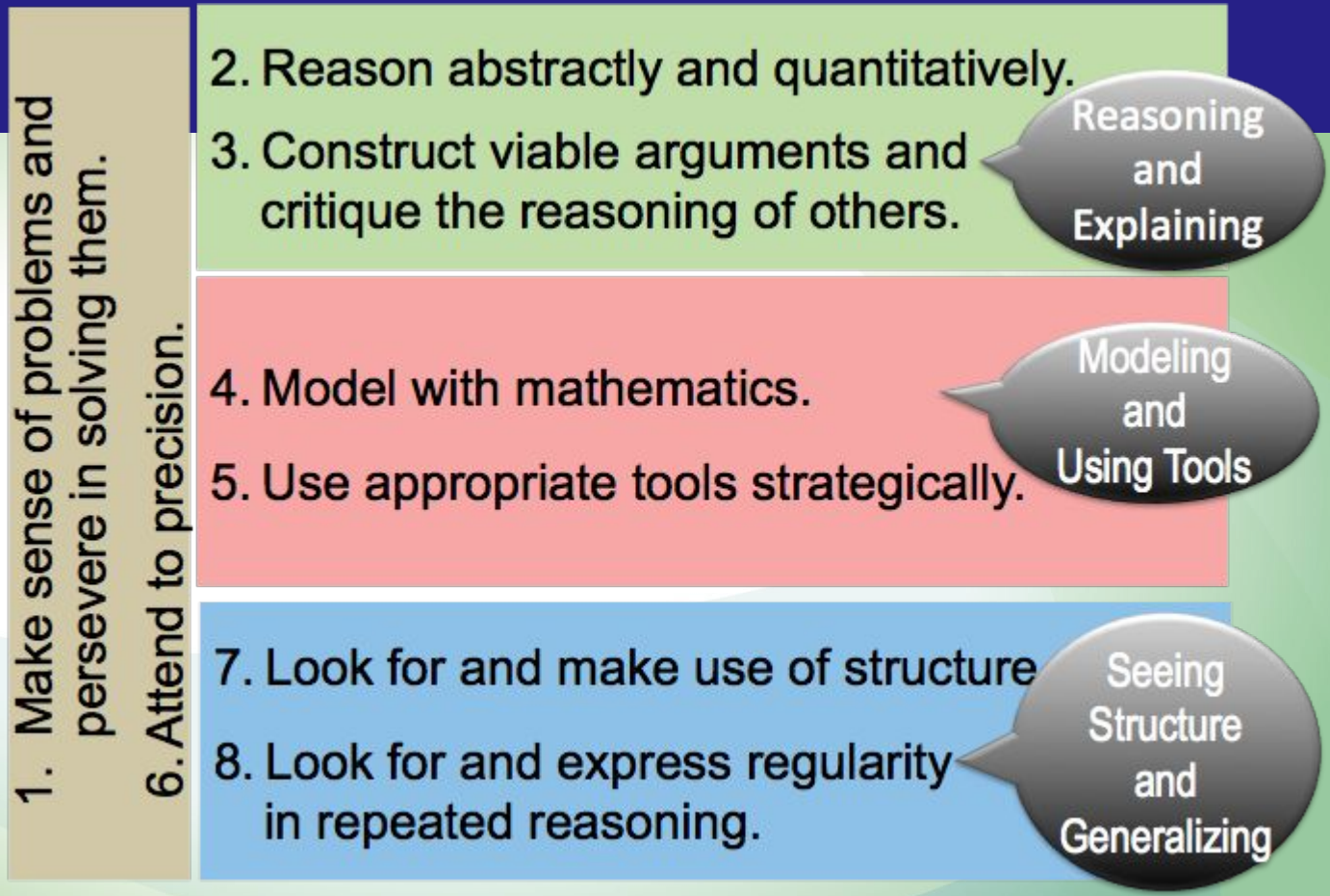

Algebra • Geometry • Probability • Number • Measurement • Data & Statistics •
Standards for Mathematical Practice
1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Rigor

- Work individually on the task.
- Check in with a neighbor.
- In what ways did this task provide opportunities for you to engage in the SMP that you have?



K-12 Standards for Mathematical Practice



William McCallum, The University of Arizona

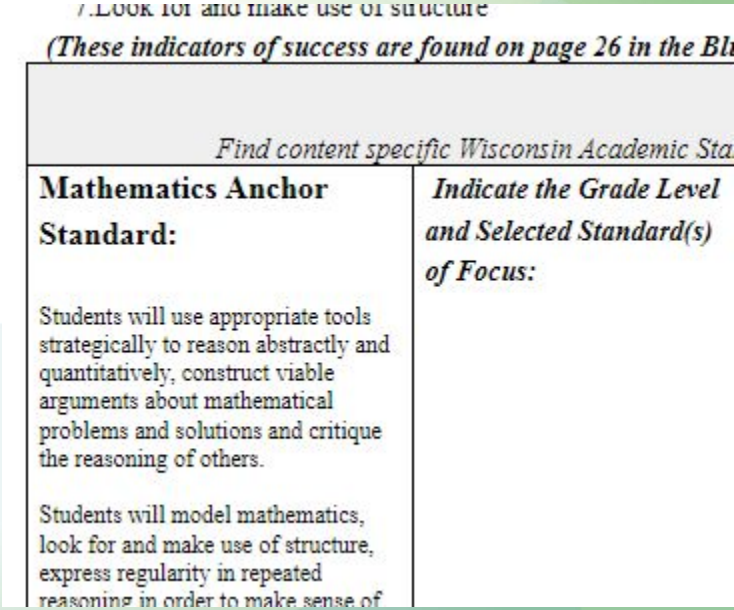
Abbreviations for the 6-8 Domains

RP	Ratio and Proportional Relationships
EE	Expressions and Equations
NS	The Number System
SP	Statistics and Probability
G	Geometry

Coherence

Coherence within the grade and among grade levels.

Anchor Standards document



7.Look for and make use of structure

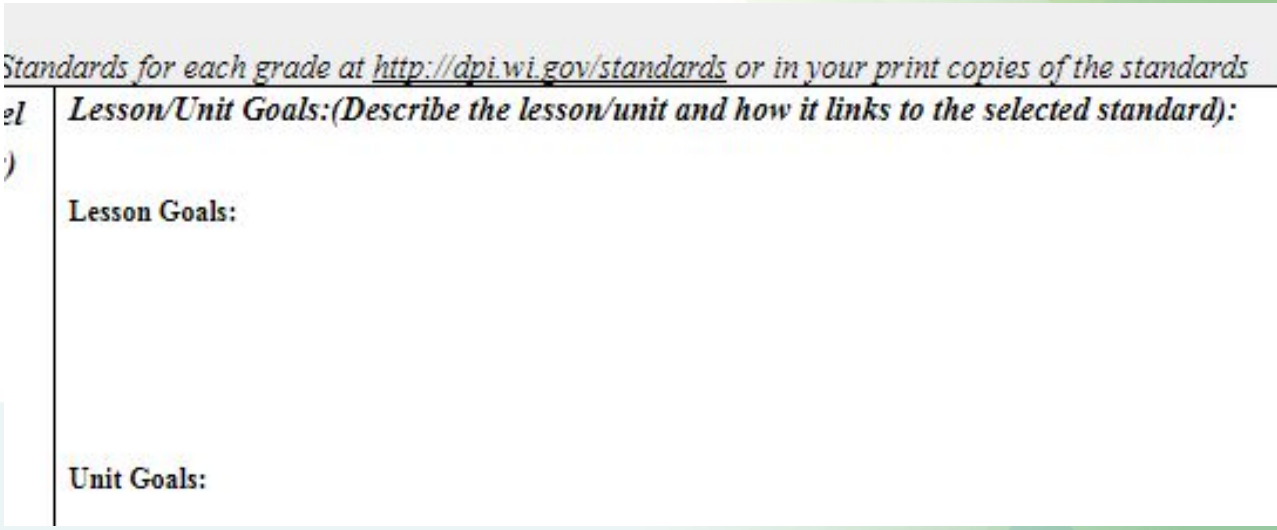
(These indicators of success are found on page 26 in the Bl

Find content specific Wisconsin Academic Sta

Mathematics Anchor Standard:	***Indicate the Grade Level and Selected Standard(s) of Focus:***
Students will use appropriate tools strategically to reason abstractly and quantitatively, construct viable arguments about mathematical problems and solutions and critique the reasoning of others. Students will model mathematics, look for and make use of structure, express regularity in repeated reasoning in order to make sense of	

Coherence

In what ways do your instructional materials promote the shift of coherence?


Standards for each grade at http://dpi.wi.gov/standards or in your print copies of the standards

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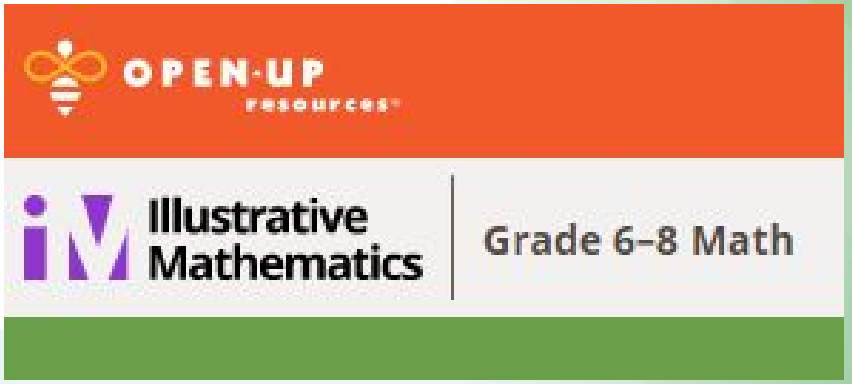
Lesson/Unit Goals:(Describe the lesson/unit and how it links to the selected standard):

Lesson Goals:

Unit Goals:

Open Education Resources



https://im.openupresources.org/

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Number Talks